

**Abstract:**

The invention relates to a process for preparing 1-octene from a C<sub>4</sub> fraction from a cracker by telomerization of the 1,3-butadiene present in the C<sub>4</sub> fraction from a cracker by means of  
5 methanol in the presence of a catalyst, hydrogenation of the telomer obtained in this way, dissociation of the hydrogenated telomer and work-up of the resulting dissociation product to give pure 1-octene.